Best Practices of the US Navy to Combat Musculoskeletal Injuries

Scott D. Flinn

CAPT, MC, USN

Disclaimer

- Shareholder in Merck
- Own variety of mutual funds that have drug company holdings
- I am not presenting any prescribing information

Navy Medicine

- Unique responsibility – provide healthcare to two departments – Navy and Marine Corps

REMEMBER, PEOPLE, WHEN YOU'RE IN A HOSTILE ENVIRONMENT, THE GROUND IS YOUR BEST FRIEND!
ENT
1. P
2. C
IF YOU TAKE NOTHING ELSE INTO THE FIELD, MAKE SURE YOU'RE CARRYING AN ENTRENCHING TOOL!
THE SHALLOWEST TRENCH — ANY DEPRESSION — GREATLY ENHANCES YOUR CHANCES OF SURVIVAL! YES, QUESTION IN THE BACK.
YEAH, WOULDN'T A HOTEL ROOM WORK JUST AS WELL?
YOU'RE Air Force I TAKE IT.

Specialty Leader for Sports Medicine to the Surgeon General

- Act as medical expert for Primary Care Sports Medicine
- Work with BUPERS in defining and filling sports medicine needs of the Navy
- Coordinate with other key stakeholders on musculoskeletal medicine issues, e.g. Family Practice, Orthopedics, PT, Podiatry, PAs, IDCs
- Advise BUMED on programs

Scope of the Problem

- “I challenge all of you to reduce the number of accidents and mishap rates by 50% over the next two years..” – Donald Rumsfeld – SECDEF memo to Joint Chiefs May 19, 2003

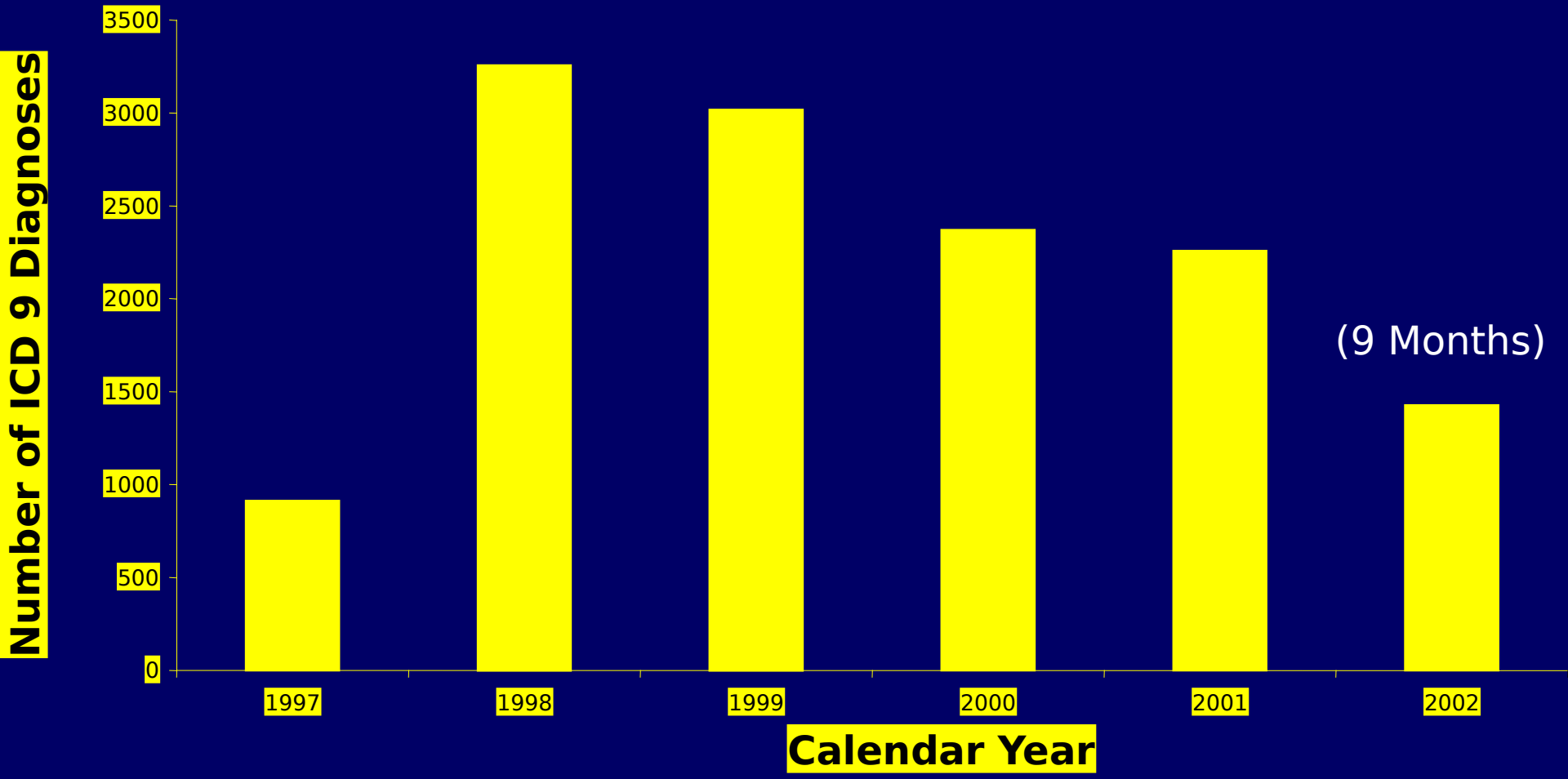
Scope of the Problem: Marine Corps Injury Burden

- Physical Evaluation Board (PEB) Attrition
  (Jan 1997 through Dec 2000--total 10,708 Marines discharged)
  - 5,762 (53.8%) rated “musculoskeletal” disability code
  - 2034 (42%) degenerative arthritis
  - Average 1,100 Marines per year (2 years = 1 MEU)
  - Female Marines twice (2x) rate of males
- Recruit Training “Costs” per year
  - Injury (musculoskeletal) attrition:
    - ~704 Recruits
    - ~$5.5M personnel procurement expenses lost
    - ~27 Recruiter years of effort wasted
  - Average lost training days from injury per Recruit: 3

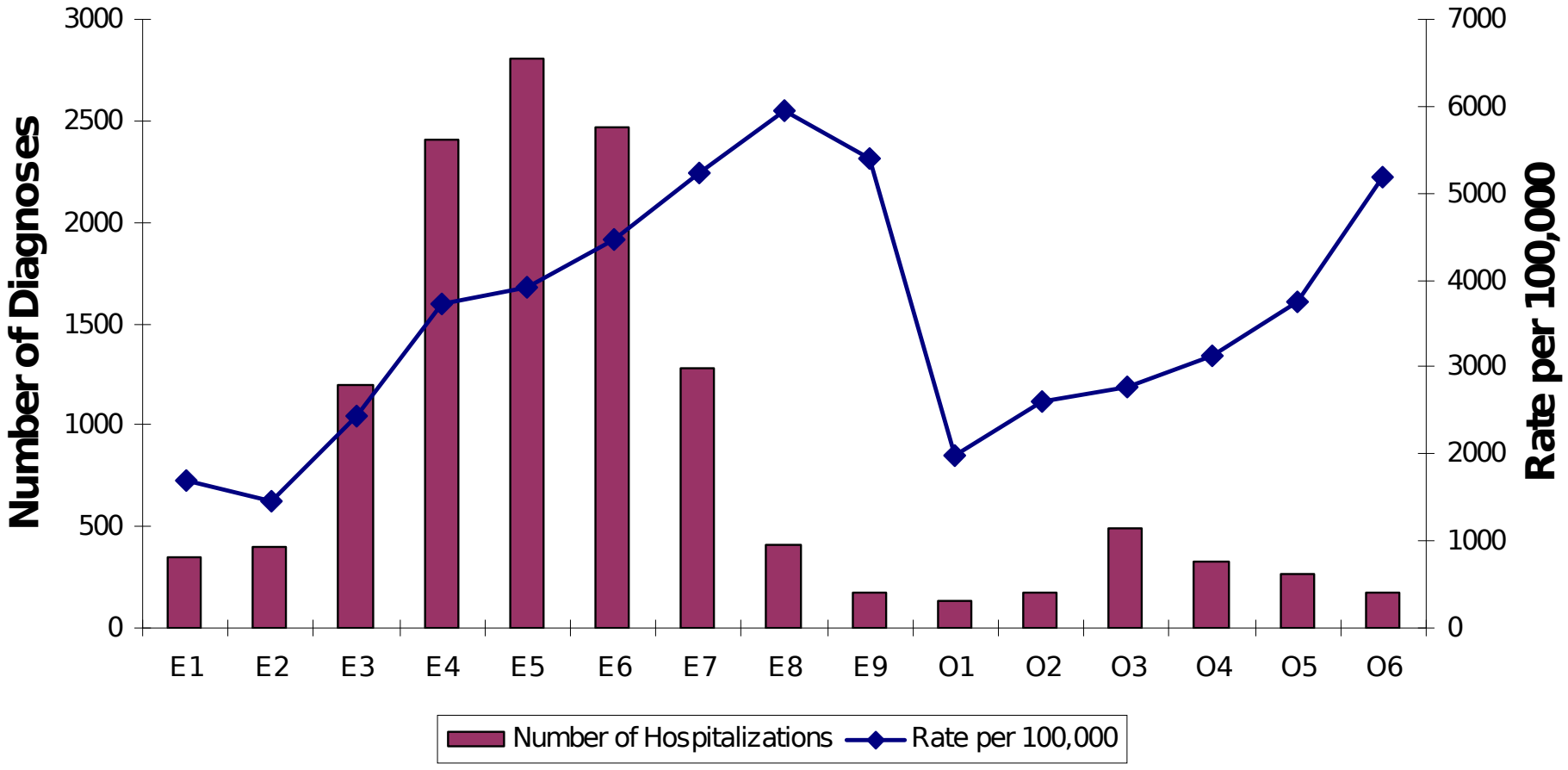
Scope

- Approximately 30 % of primary care visits are musculoskeletal complaints
- Orthopedics referral wait times – 30 to 51 days (Tricare guidelines 30 days)
- PT referral wait times - same as above

Musculoskeletal Diagnoses



Inpatient Musculoskeletal Diagnoses FY 1997-FY 2002



Where have we been Sports Medicine

- Started as one man show in 1992 – first sports medicine fellow
- First sports medicine clinic at Camp Pendleton Naval Hospital
  - Financing - CHAMPUS
  - Dependents and retirees

Where have we been

- More fellows trained
- First SMART Clinic opened at SOI West at 52 area Camp Pendleton

SMART Clinics Mission and Scope

- Timely accurate diagnosis
- Early aggressive rehabilitation
- Accelerated return to duty
- Warrior athlete

Physical Characteristics

- Staff
  - Sports Medicine
  - Podiatry
  - Physical Therapy/ATCs
  - Timely Orthopedic referral

Clinic Layout

- Open bay
- Staff interaction and education
- Patient motivation and education
- Streamlining process and personnel

Do SMART Clinics Work?

- Lost Training Days
- Attrition
- Referrals

SMART Clinics MCRD San Diego

- FY 2003 SMART MCRD San Diego had 43K patient visits
- Based on CMAC reimbursement of $55 per uncomplicated outpatient visit, 43k X 55 = $2,365K
- Cost basis is $1.009 K for contracted positions plus the cost of 7 clinic military of 376K (see below) = 1.385K
- Therefore, SMART Center would generate $980K

(Cost estimates of 7 clinic personnel = 1 SM doc 200K, 1 Orhto PA 96 K, 4 corpsmen at 40 K per = 160K, and one clerk 40K)

HISTORICAL COMPARISON OF MCRDs with and without a SMART CENTER

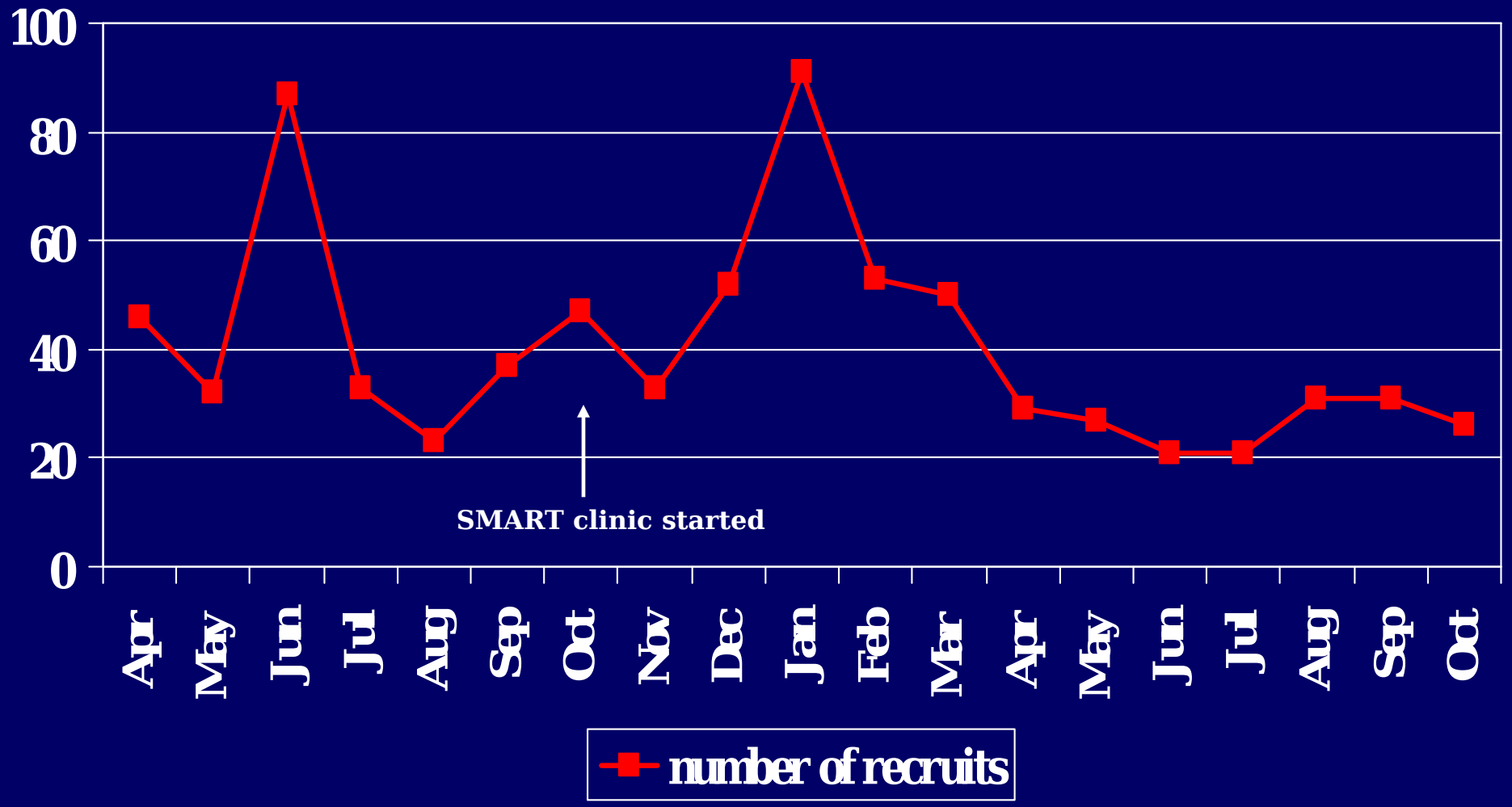
- **SMART clinic started at MCRD Parris Island FY 99, disbanded at MCRD San Diego FY 99**

	FY98	FY99	FY00
MEDICAL ATTRITION STATISTICS:			
MCRD PARRIS ISLAND	**1443**	**1136**	**735**
MCRD SAN DIEGO	**1160**	**960**	**1235**
# OF RECRUITS SENT TO MRP:			
MCRD PARRIS ISLAND	**764**	**766**	**570**
MCRD SAN DIEGO	**N/A**	**806**	**1201**

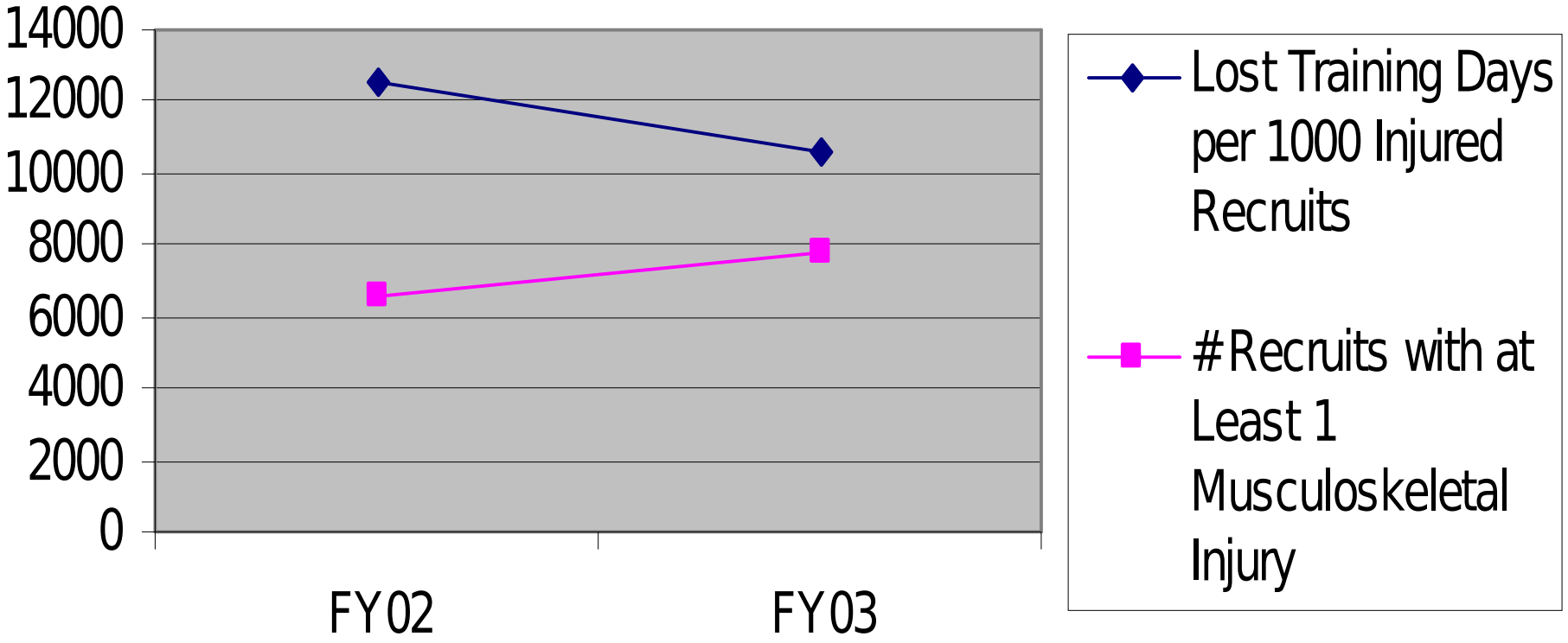
SMART Center MCRD San Diego Personnel

- Hiring 14 FTE Civilians enabled command to recoup 17.8 FTE military personnel – net gain to NMSCD of 3.8 personnel
- To Complement 7 FTE pre-existing personnel consisting of 4 corpsmen (2 Podiatry corpsmen, two quad 0 corpsmen), 1 military sports med physician, 1 Ortho PA, and one civilian clerk, in FY 2003 fully engaged for 1.009 M hiring 14 FTE civilian personnel:
  - 1 Sports Medicine Physician
  - 1 Ortho PA
  - 1 Nurse Manager,
  - 5 Medical Assistants
  - 6 ATCs
- Military personnel that were no longer needed and returned to the command consisted of 17.8 FTEs as follows:
  - 1 podiatrist
  - 2 PAs
  - 0.7 FTE Physical Therapy
  - 2.1 FTE (3 x 0.7) PT Techs
  - 11 general duty corpsmen
  - 1 civilian clerk

MCRD San Diego – Entry Level Separations for Musculoskeletal Injuries – FY 02 to FY 04 , estimated cost savings to USMC = $ 2.35 million/year

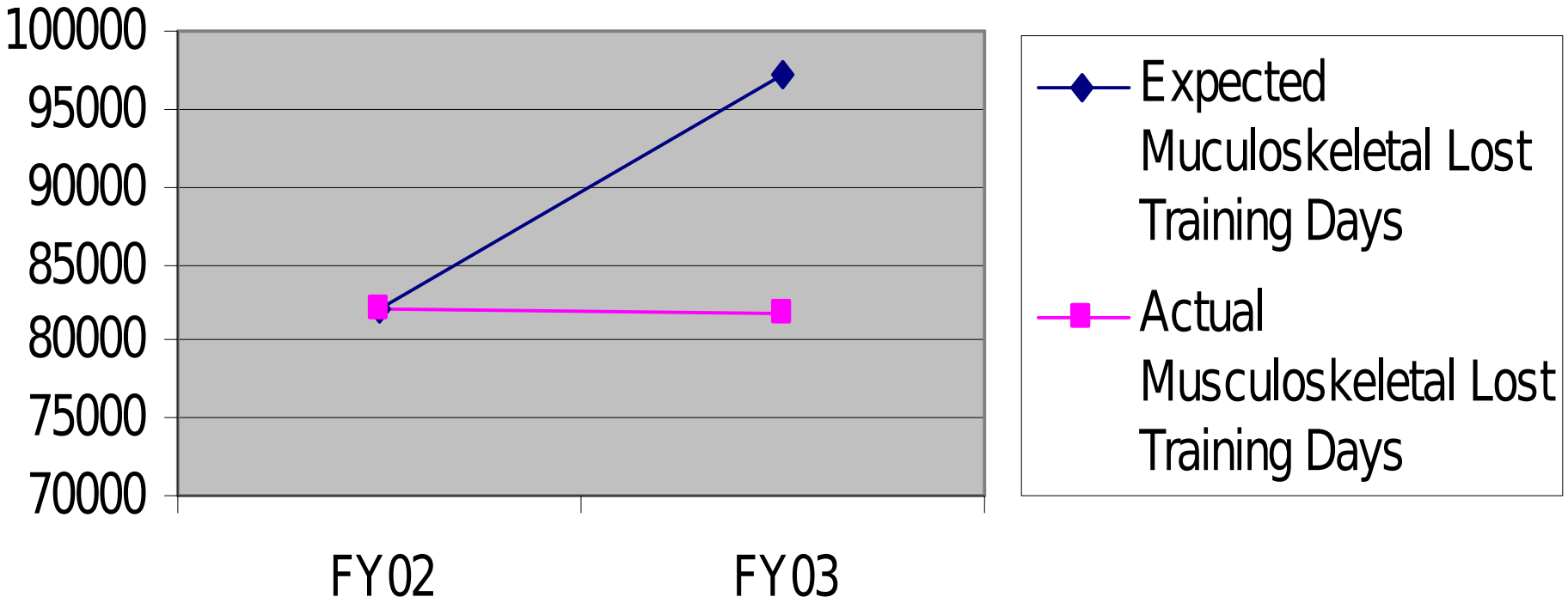


Marine Corps Recruit Depot San Diego



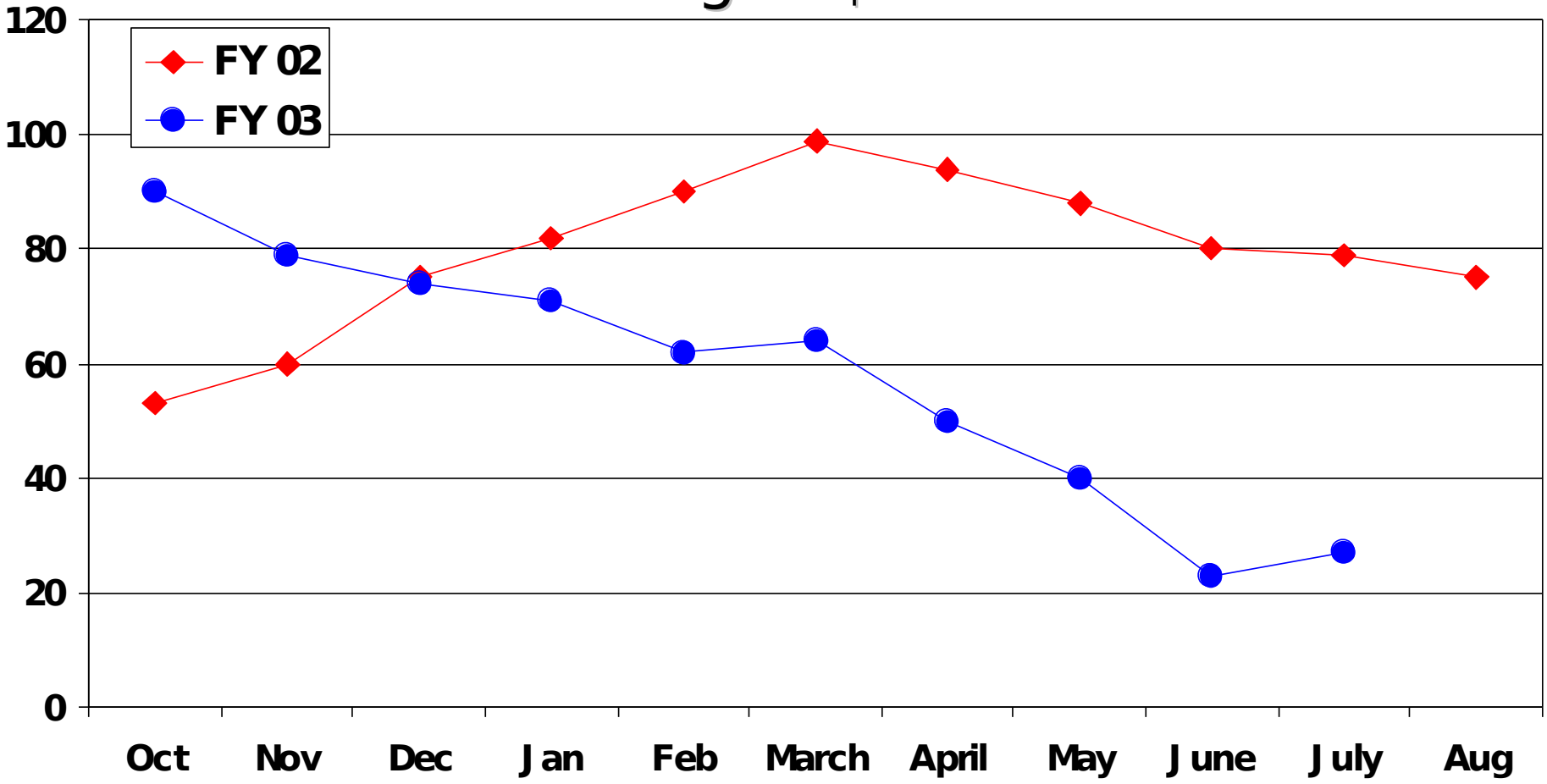
Although the number of recruits who became injured over the past year increased (pink), the SMART Center became more effective at decreasing Lost Training Days per recruit (blue)

Marine Corps Recruit Depot San Diego

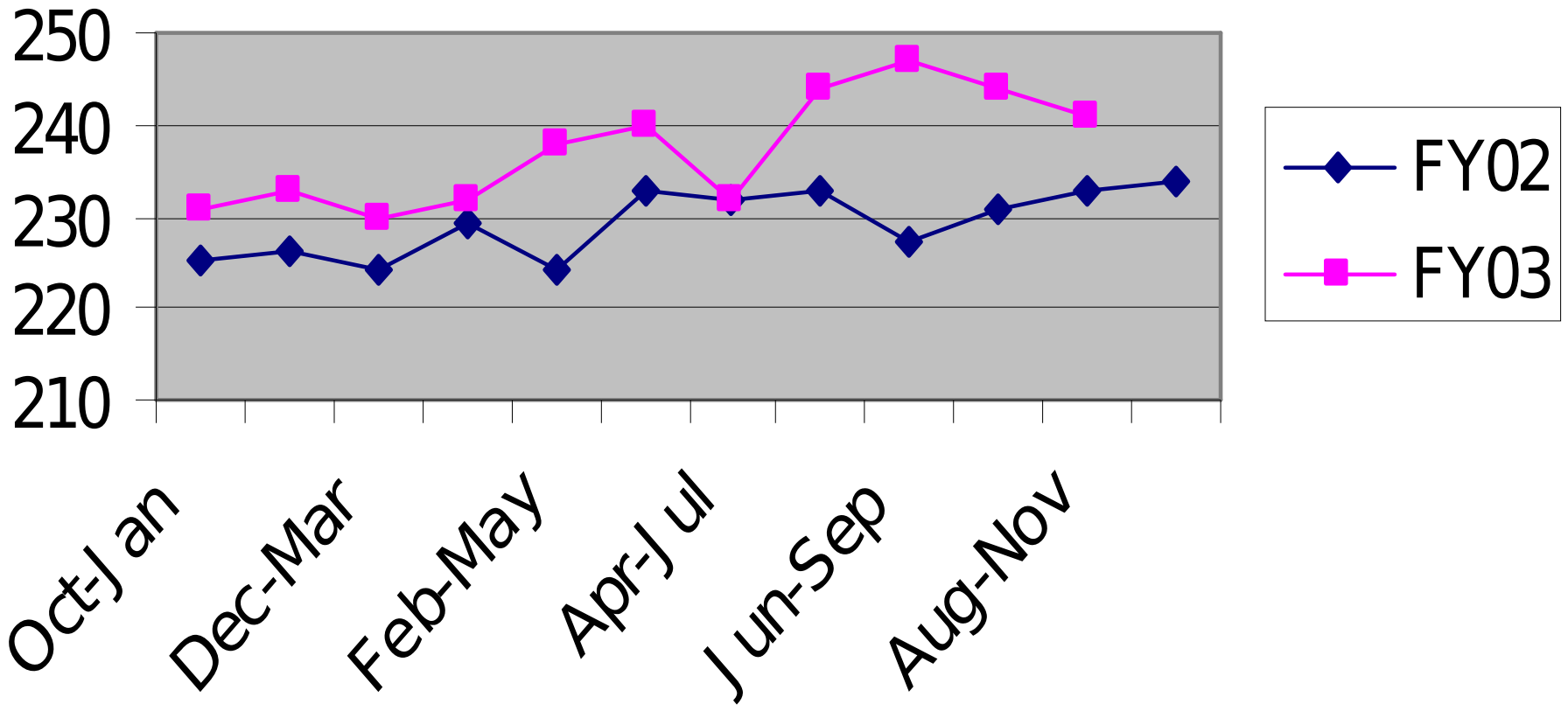


Based on increased numbers of recruit injuries between the two fiscal years, Lost Training Days should have gone up in FY03 based onprevious average length of stay in MRP, but actually declined slightly. Cost

Follow on Command - MCRD-SD (SOI-west) Reaped Benefit As #of New Marines Being Held Out of Training Due to MS Injuries Plummeted. Cost Savings = $1.5 Million



MCRD-SD Ave Graduating PFT Scores



New Marines also graduated with higher PFT Scores in FY03

ROI Summary

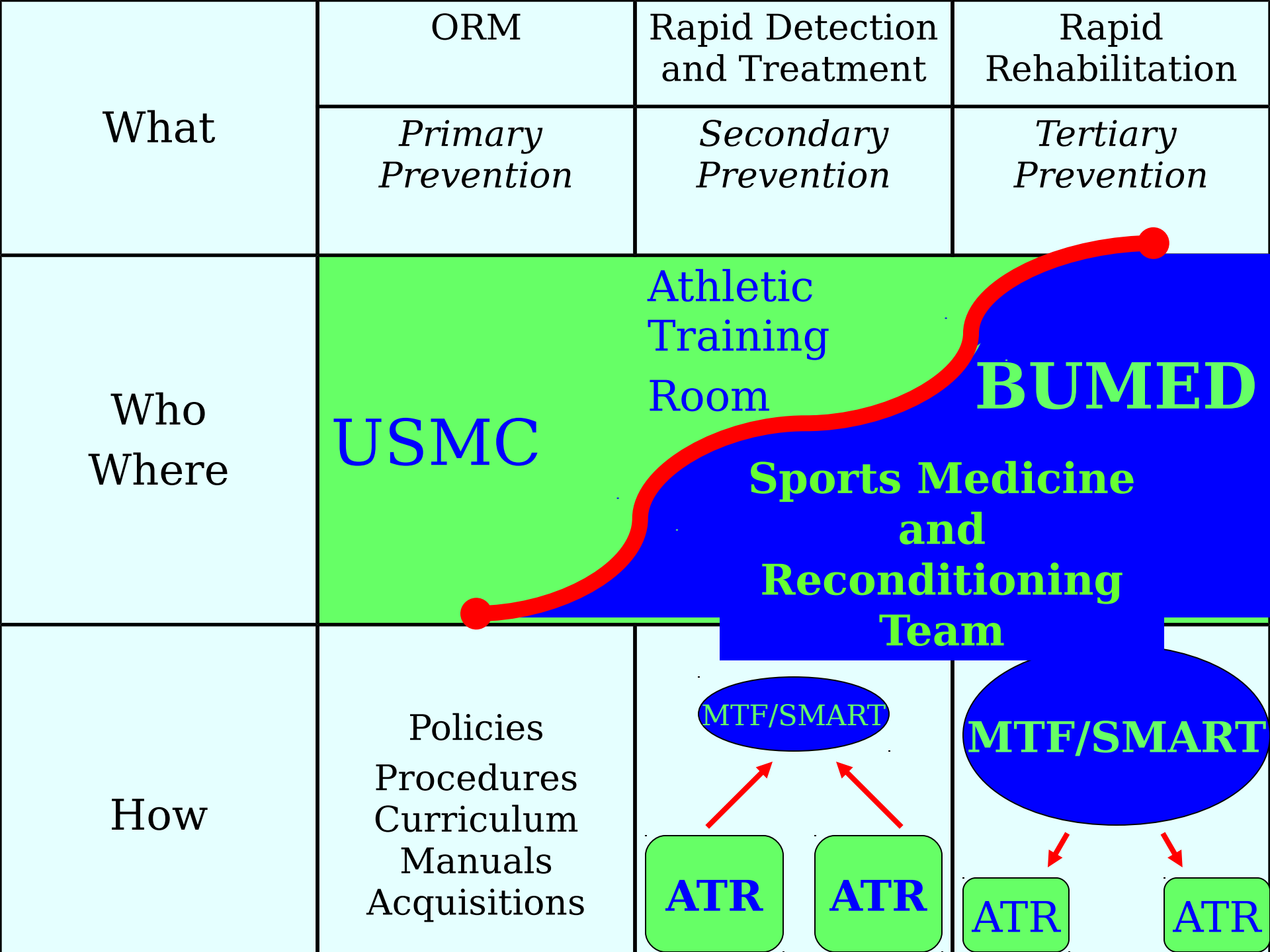
- Because of the SMART Center:
  - MCRD-SD is graduating a higher percentage of recruits.
  - The recruits graduating are more fit and less injury prone.
  - The annual ROI is $7.34 million/year
    - $1.96 million/year for Navy Medicine (military FTEs freed $0.982 + BCA/patient visits = $0.98)
    - Does not include any impact on decreased orthopedic referrals!
    - $5.38 million/year for the Marine Corps ROI (decreased injury attrition $2.35 + decreased lost training days $1.54 + decreased musculoskeletal injury lost training days at SOI $1.5)

Where are we Going

- Current SMART clinics at military training areas -MCRDs PI and SD, SOI East and West, SMART “lites” at Quantico OCS and TBS, OCS Pensacola and the training room at Annapolis, this summer at Great Lakes
- Fleet SMARTs – Pearl Harbor, SMART lite at Mayport, K-Bay, Okinawa, Camp LeJeune
- Portsmouth and Pendleton – musculoskeletal product line including sports med clinics

USMC - Sports Medicine Initiative Program SMIP

- Commanding General, Marine Corps Combat Development Command
  - Letter to CNO on 05 Dec 02 – requested that BUMED assist the USMC in increasing readiness and reducing attrition through aid to its Sports Medicine and Injury Prevention Initiative.
  - Specifically requested enhancement and sustainment of SMART clinics at Marine Corps Training locations including MCRD San Diego


What
ORM
Rapid Detection and Treatment
Rapid Rehabilitation
Primary Prevention
Secondary Prevention
Tertiary Prevention
Who
Where
USMC
Athletic Training Room
BUMED
Sports Medicine and Reconditioning Team
How
Policies
Procedures
Curriculum
Manuals
Acquisitions
MTF/SMART
ATR
ATR
MTF/SMART
ATR
ATR

SMIP and SMART

- Smart clinics are referral areas for ATCs in field
- Sports med docs professional supervisor

Where are we going

- Manpower - PBD 712, sites, operational
- PA Orthopedic fellowship
- IDC training
- GMO training
- FP training
- BUMED - Funding, studies, MEPRS code

Questions